

REMARKS

Claims 1-9, 10-13, 18-19, 21, and 24-25 remain in the referenced application.

Claims 1-9 remain as originally filed. Claims 10 and 18-19 have been amended. Claims 14-17, 20, 22-23, and 26-32 have been canceled.

Claims 1-9 stand rejected under 35 U.S.C. §102 (b) as being anticipated by Reynolds, et al. (U.S. Patent 3,441,176 – hereinafter referred to as “Reynolds”). Claim 1 recites an oblong shaped housing; an inlet port disposed on the housing for inletting a liquid from a liquid source; a gas inlet port disposed on the housing for inletting gas from a gas source; and an exit port disposed on the housing. In rejecting claim 1, the Examiner asserts Reynolds discloses a carbonator including an “oblong shaped housing.”

Applicant respectfully disagrees with the Examiner’s assertion. Applicant respectfully asserts that Reynolds discloses a carbonator 300 that includes a vessel 301 having a diameter and a length measurement (col. 12, lines 12-14). A diameter and a length measurement are clearly indicative of a “cylindrically shaped housing.”

Applicant further respectfully asserts that the oblong shaped object cited by the Examiner in Figures 3 and 4 of Reynolds’ disclosure is described as a “jacket 118” that houses a heat insulating material 117 (column 4, lines 34-38). Reynolds further discloses the carbonator 300 disposed within the heat insulating material 117 to insulate the carbonator 300. Reynolds, accordingly, does not disclose an inlet port, a gas inlet port, or an exit port on the jacket 118 because Reynolds cannot let a liquid or a gas into the jacket 118, as the jacket 118 is filled with the heat insulating material 117. Applicant therefore respectfully asserts that Reynolds utilizes a “cylindrically shaped carbonator 300” because the carbonator 300 includes a cylindrical vessel 301 disposed within the heat

insulating material 117. Applicant thus respectfully asserts that Reynolds does not disclose “an oblong shaped housing,” and, therefore, cannot anticipate Applicant’s claim 1, which recites “an oblong shaped housing.” Applicant respectfully traverses the rejection of claim 1, and submits that claims 1-9 are patentable as filed over Reynolds, as Reynolds fails to disclose an “oblong-shaped housing.”

Claims 10-14, 15, and Claims 16-17 have been rejected under 35 U.S.C. §102 (b) as being anticipated by Reynolds. Applicant has amended claim 10 to incorporate the limitations of claims 14-17. Applicant’s amended claim 10 now recites, “a film generator assembly disposed in the housing, the film generator assembly including a hemispherical redirector coupled to a cylindrical film generator, wherein the hemispherical redirector includes an inner surface, and further wherein, the cylindrical film generator includes apertures to aid the liquid in taking the shape of a film.” Applicant contends that Reynolds does not disclose a film generator assembly including a hemispherical redirector coupled to a cylindrical film generator, wherein the cylindrical film generator includes apertures. Applicant respectfully submits that the rejections of claims 10-14, 15, and 16-17 are now moot in view of the amendments to claim 10.

Claims 15, 21, and 28 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Reynolds taken in combination with any one of Delen, Holinger, or Kazuma. As set forth by the Examiner, Reynolds discloses a carbonator housing including a carbon dioxide inlet 335, a water inlet 325, a carbonated water outlet 350, and a baffle 340 relative to the liquid inlet to create a thin film of liquid upon a cylindrical side wall 302 to promote absorption of the carbon dioxide gas into the water. The Examiner asserts that Reynolds substantially discloses Applicant’s invention, except for

the cylindrical film forming surface thereof having apertures to assist in the formation of the liquid film. The Examiner further asserts that each of Delen, Holinger, and Kazuma alternatively disclose providing an apertured cylindrical surface upon which a film of the liquid is formed so as to increase the contact area between the phases, and that it would have been obvious for an artisan at the time of the invention to modify the cylindrical film forming surface of Reynolds to include liquid delivery apertures therein, since such would further extend the available gas/liquid contact area, thereby improving contact between the phases in a well understood manner.

Applicant respectfully traverses the rejection of claims 15, 21, and 28 over Reynolds in view of Delen, Holinger, or Kazuma. Applicant contends that Reynolds discloses a cylindrical side wall 302 coupled to a hemispherical top wall 303. Reynolds further discloses a hemispherical shaped baffle 340 coupled to the cylindrical housing 302, wherein a concave portion of the hemispherical shape faces toward the top wall 303. Reynolds' top wall 303 further includes a liquid inlet 314 that inlets a high pressure spray into an interior of the carbonator housing. Accordingly, the high pressure spray enters through the inlet 314, contacts the concave portion of the baffle 340, and is redirected away from the cylindrical housing and upward toward the hemispherical top wall 303, as shown in Figure 12 of Reynolds' disclosure. After the redirected fluid contacts the top wall 303, the fluid flows down the top wall 303 to the side wall 302. The redirected fluid continues the downward descent on the inner surface of the side wall 302, thereby forming a film as it moves from an upper end of the side wall 303 to a reservoir disposed within a lower portion of the carbonator housing.

Applicant respectfully asserts that an additional film generator is not required in Reynolds' carbonator, as Reynolds utilizes the inner surface of the side wall 302 to force the liquid into a film. Nevertheless, the Examiner asserts that it would have been obvious at the time of the invention to place a cylindrical film generator into the housing of Reynolds to aid the liquid in taking the shape of a film. Applicant respectfully submits that a cylindrical film generator placed above the baffle 340 of Reynolds would hinder the projected flow path of the fluid being redirected by the baffle 340. The hindered fluid would then not be able to reach the top wall 303, and, ultimately, the fluid would not be able to reach the side wall 302. Fluid not reaching the side wall 302 would not film properly, thereby rendering the carbonator 380 inoperable in its intended purpose.

Alternatively, a cylindrical film generator may be placed beneath the baffle 340, however, the cylindrical film generator must be adjacent to the side wall 302 to engage the fluid flowing down the side wall 302. One of ordinary skill in the art will readily recognize that a cylindrical film generator with apertures disposed against the side wall 302 would clearly interfere with the fluid flow down the side wall 302, and may cause pooling in the aperture areas. One of ordinary skill in the art will further recognize that a cylindrical film generator disposed beneath the baffle 340 and off of the side wall 302 would clearly be ineffective, as the fluid flowing down the side wall 302 would miss the cylindrical film generator entirely. Applicant further contends that a cylindrical film generator disposed beneath the baffle 340 would clearly interfere with the float 365, as it raises and lowers. A stuck float 365 would clearly affect the operation of the carbonator 300.

In a third alternative, apertures may be placed into the side wall 302 of Reynolds to aid the fluid in generating a film. However, Reynolds' cylindrical side wall 302 is actually the outer housing of the carbonator, and henceforth, the apertures would extend to the exterior of the carbonator, thereby allowing the fluid disposed within the carbonator to drain out. Still further, the interior of the carbonator could not be pressurized, as the apertures would allow injected gases to escape, thereby rendering the carbonator useless in its intended purpose. Applicant respectfully submits the invention clearly provides for a film generator assembly disposed within the housing of the carbonator to effectively utilize apertures on the cylindrical film generator.

Applicant respectfully reasserts that Reynolds' carbonator 300 was designed to utilize the side wall 302 as a film generator. Applicant further respectfully contends that the addition of a cylindrical film generator to the carbonator 300 is not functional, and therefore, is indicative of hindsight reconstruction. As such, Applicant respectfully requests that the rejections of claims 10-14 be withdrawn, and that claims 10-13 are patentable as amended over Reynolds.

Claims 18-20, and 22-25 have been rejected under 35 U.S.C. §102(b) as being anticipated by Reynolds. Claims 20, 22, and 23 have been cancelled. The Examiner asserts that Reynolds anticipates the method of spraying a liquid into a film generator assembly disposed in a chamber filled with a pressurized gas; generating a film as the liquid moves over a film generator; and absorbing the higher pressure gas into an increased exposed surface area of the liquid. Applicant has amended claim 18 to incorporate limitations specific to "placing a film generator assembly in a chamber filled with a pressurized gas, wherein the film generator assembly comprises a hemispherical

redirector coupled with a cylindrical film generator, spraying the liquid onto an inner surface of the hemispherical redirector; redirecting the sprayed fluid towards the cylindrical film generator; and generating a film as the liquid moves over the film generator. Claim 19 has been amended to follow the steps of claim 18. Applicant contends that the rejections of claims 18-19, 21, 24 and 25 are now moot in view of the current amendments, and further submits that claims 18-19, 21, 24, and 25 are patentable over Reynolds, as Reynolds does not disclose redirecting the fluid toward the cylindrical film generator as shown in the method steps of claim 18. Reynolds discloses spraying the fluid against a baffle 340 that directs the fluid away from the cylindrical side wall 302. The redirected fluid moves to a top wall 303, and then down the top wall 303 to the side wall 302. The redirected fluid then flows down the side wall 302 to pool in a lower end of the carbonator 300. Accordingly, Applicant respectfully requests withdrawal of the rejections for claims 18, 19, 21, 24, and 25.

The prior art made of record has been reviewed by Applicant and is deemed not to anticipate nor render obvious the claimed invention.

In view of the foregoing, Applicant respectfully requests reconsideration of the rejected claims, and solicits early allowance of the subject application.

Respectfully submitted,

LAW OFFICES OF CHRISTOPHER L. MAKAY
1634 Milam Building
115 East Travis Street
San Antonio, Texas 78205
(210) 472-3535

DATE: 16 August 2005

BY: 

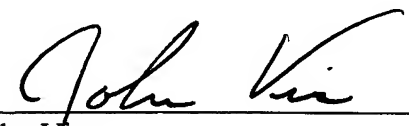
Christopher L. Makay
Reg. No. 34,475

ATTORNEY FOR APPLICANT

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" Service under 37 C.F.R. §1.10 on the date indicated below, addressed to the Commissioner For Patents, P.O. Box 1450, Alexandria, VA. 22313-1450.

Express Mail No. EV617706023 US Date: 16 August 2005


John Vira